Parallelograms.

A _____ B

D _____ C
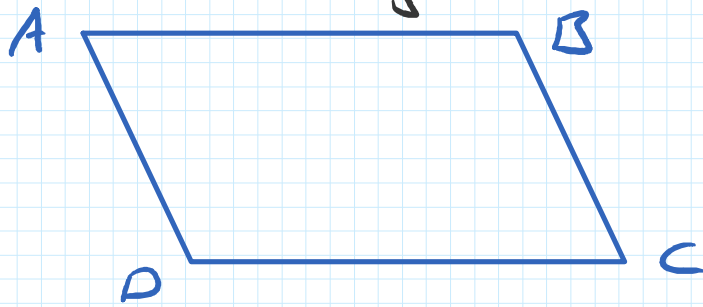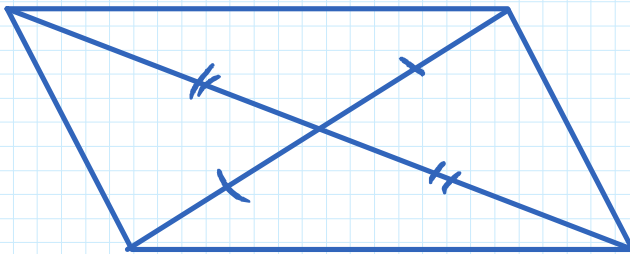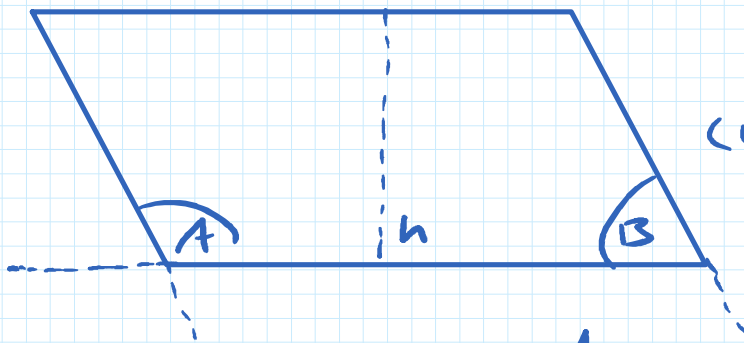
(i) Name ABCD

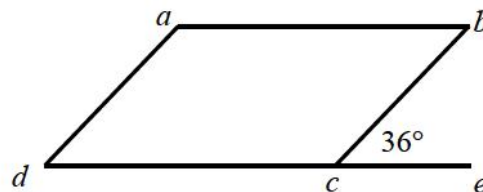(ii) Opposite sides are equal in length.
Opposite angles are equal.

(iii) Diagonal bisect area.

(iv) Diagonal bisect each other.

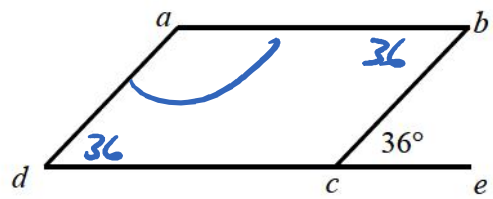(v) $A + B = 180$
Interior angles.

(vi) Area = Base × height.

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abcd is a parallelogram with [*dc*]

produced to *e* and $|\angle bce| = 36°$, as

shown.

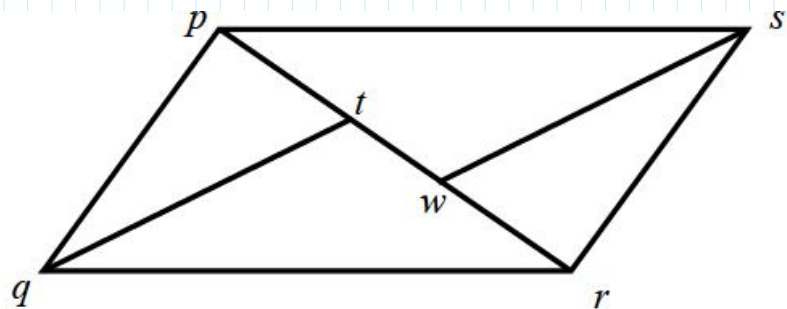Find **(i)** $|\angle abc|$,

(ii) $|\angle bad|$.

abcd is a parallelogram with [dc]
produced to e and $|\angle bce| = 36°$, as
shown.

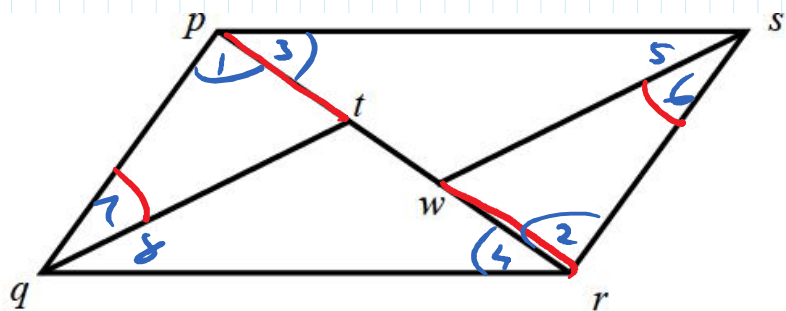Find **(i)** $|\angle abc|$, $= 36°$

(ii) $|\angle bad|$.

$180 - 36 = 144°$

In the parallelogram pqrs,
the points t and w are on the
diagonal [pr] such that
$|\angle pqt| = |\angle wsr|$.

(i) Prove that $|pt| = |wr|$.

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$|\angle 7| = |\angle 6|$
$|\angle 1| = |\angle 2|$
$|pq| = |sr|$
ASA
$\triangle pqt \equiv \triangle wsr$

$|pq| = |sr|$
$|ps| = |qr|$
$(\angle 1 =)\angle 2|$
$||\angle 3| |\angle 4|$
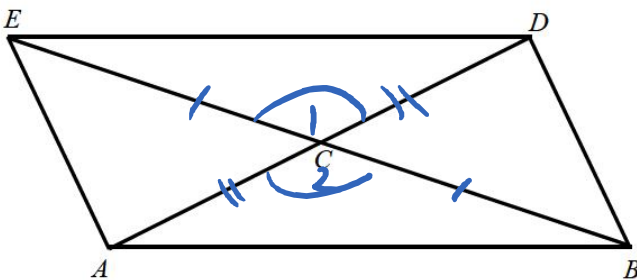$|\angle 5| + |\angle 6| = |\angle 7| + |\angle 8|$

≡   congruent.

The quadrilateral *ABDE* has diagonals [*AD*] and [*BE*] intersecting at *C*.
C is the midpoint of both [*AD*] and [*BE*].
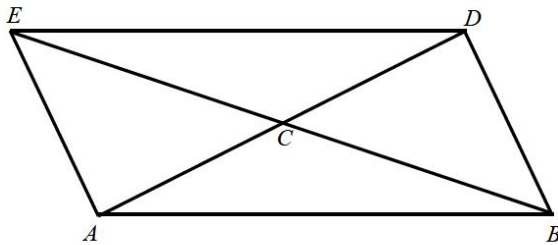
(i)   ✎   Prove that △*ECD* is congruent to △*ACB*.

(ii)   ✎   Hence, prove that *ABDE* is a parallelogram.

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(i)   ✎   Prove that △*ECD* is congruent to △*ACB*.

(ii)   ✎   Hence, prove that *ABDE* is a parallelogram.

Quad = 4 sides

$|CE| = |BC|$
$|AC| = |CD|$
$|\angle 1| = |\angle 2| =$

△ ECD ≡ △ ACB
SAS

Diagonal of
a parallelogram
bisect each other.